

REMARKS

Claims 14-18, 20 and 22 are rejected under 35 USC §101 as not falling within one of the four statutory categories of invention.

Claims 14, 20 and 22 are amended to comply with §101. Claims 15-18 are dependent on claim 14 and are therefore amended by dependence.

Claim 21 has been rejected under 35 USC §112, first paragraph, as failing to comply with the written description requirement. The Examiner asserts that this claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention. Applicant amended this claim to comprise the element “a designating computing device” in lieu of “a designator” to more clearly show that the claim was directed to a machine that is statutory subject matter under 35 USC §101. Applicant now amends this term back to the original term “designator,” but adds the limitation that the designator comprises a processor and a memory to show that the subject matter is proper.

Applicant also asserts that a person skilled-in-the-art would know that a designator must be a computing device with a processor and memory. Designation of pixel values cannot be accomplished without a computing device since the pixel values exist only as constructs in computer memory.

Figures 1 and 2 illustrate systems with components that are readily recognized as digital computing devices to those skilled-in-the-art. Additionally, paragraph one of the detailed description describes several devices that may be used to implement the present invention. Exemplary implementations described in this paragraph comprise a display algorithm, a digital

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display device such as a liquid crystal display (LCD), a graphics controller with limited video RAM and an internal hardware driver. Clearly, these devices and implementations are known to those skilled-in-the-art to consist of or use a processor and memory.

Applicant respectfully requests that this rejection be reconsidered in light of the above argument and the amendments to this claim.

Claims 14, 15, 18, 21 and 22 are rejected under 35 US 102(e) as being anticipated by US Published Patent Application No. 2003/0164961 to Daly (hereinafter Daly).

The rejection is improper as it fails to present a *prima facie* case of anticipation. Daly does not disclose a method for creating a dither pattern in which dither pattern pixel values are dispersed from values in other color channels or image description channels.

In repeating this rejection, the examiner does not seem to understand that the presently claimed invention relates to the creation of specific dither patterns and the placement of specific pixel values within those patterns. The examiner continues to cite art related to the placement of dither patterns as they are applied to an image and art that does not relate to the placement of individual pixel values within a dither pattern. Other art is cited in which the pixel values in a dither pattern are not dependent on pixel values in a dither pattern of another color channel. The present invention relates to creation of patterns of pixel values, which are dependent on patterns in other color channels, while the cited art relates to the application of established dither patterns or the creation of dither patterns that do not have cross-color-channel dependence.

Dither pattern tiles comprise a pattern of pixel values, which are distributed in a specific or random pattern to achieve a specific result. This result typically is the reduction of contouring or other artifacts in a decoded image, however, other applications exist. The efficiency and

effectiveness of a dither pattern depends on the pattern or distribution of pixel values in the dither tile. Additional efficiency and effectiveness can be dependent on the order in which the dither patterns are applied to an image or sequence of images.

Daly shows, in conjunction with Figures 3-5, that different dither pattern tiles may be used for each color channel, but does not disclose a method whereby the dither patterns in the tiles are created with feedback related to pixel values in the dither patterns of other color channels. Furthermore, Daly teaches the use of dither patterns that are created from pseudo-random noise that is filtered. This teaches away from the present invention, which creates dither patterns from feedback between color channels. Also, Daly (para. 53) teaches that independent spatiotemporal arrays are used for each color channel. The dither patterns of the present invention are not independent as indicated in the claims.

Claim 14 comprises the element :

“designating pixel values in said dither pattern tiles wherein subsequently-designated *pixel values are spatially dispersed* from previously-designated pixel values in the same dither pattern tile and *dither pattern tiles in other color channels.*” Emphasis added. Daly does not disclose this element wherein pixel values in the dither pattern tiles are designated by spatial dispersion from pixel values in other color channels.

It should be noted that this process of designation takes place during creation of the dither pattern tile as the location of each individual pixel value is chosen and not when the dither tile is applied to an image. The designation process defines the structure of the dither pattern tile and not its application.

Claims 15 and 18 are dependent on claim 14 and are patentable for the reasons stated above in relation to claim 14.

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Claim 21 comprises the element of:

“a designator for designating pixel values in said dither pattern tiles wherein said designator designates subsequently-designated pixel values that are *spatially dispersed* from previously-designated pixel values in the same dither pattern tile and *dither pattern tiles in other color channels*.”

This element is not taught in Daly.

Claim 22 comprises the element of:

“designating pixel values in said dither pattern tiles wherein subsequently-designated pixel values are *spatially dispersed* from previously-designated pixel values in the same dither pattern tile and *dither pattern tiles in other color channels*.” This element is not taught in Daly.

Applicant respectfully requests that the examiner reconsider this rejection in light of the above amendments and argument.

Claim 16 is rejected under 35 US 103(a) as being anticipated by US Published Patent Application No. 2003/0164961 to Daly (hereinafter Daly) in view of US Patent No. 4,758,893 to Lippel (hereinafter Lippel).

This rejection is improper as it does not present a *prima facie* case of obviousness. Claim 16 is dependent on claim 14 and comprises the element described above in relation to claim 14. The combination of Daly and Lippel does not disclose designating dither pattern pixel values that are spatially dispersed from those in other color channels.

Lippel (col. 10, lines 13-24) as cited by the examiner cites a combination of weighted dither patterns, but does not teach weighting the influence of pixel values in other temporal

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frames as claimed in claim 16. Furthermore, Daly does not teach other elements of this claim. Accordingly, all elements of this claim are not taught in the combination of Daly and Lippel.

Claim 17 is rejected under 35 US 103(a) as being anticipated by US Published Patent Application No. 2003/0164961 to Daly (hereinafter Daly) in view of US Patent No. 7,110,010 to Masuji (hereinafter Masuji).

Claim 17 is dependent on claim 14 and comprises the element described above in relation to claim 14. Masuji teaches the selection of a dither pattern based on a color gradation level. Masuji does not teach creation of a dither pattern array using spatial dispersion related to pixel values in the dither pattern of other color channels as claimed in claim 14. The combination of Daly and Masuji does not disclose designating dither pattern pixel values that are spatially dispersed from those in other color channels.

In light of the above amendments and arguments, applicant requests that this application be allowed in its currently-amended form.

Respectfully submitted,

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